Honolulu High-Capacity Transit Corridor Project
Final EIS Mitigation and Commitments Summary

Draft – April 28, 2010 Final EIS

Mitigation No.	Final EIS Section(s)	Summary
S+S-1	2.5.4 4.6.3 4.18.7	A project-specific Safety and Security Management Plan has been developed in accordance with FTA requirements to define the safety and security activities and methods for identifying, evaluating, and resolving potential safety hazards and security vulnerabilities of these systems. It establishes responsibility and accountability for safety and security during the Preliminary Engineering, Final Design, construction, testing, and start-up phases of the Project. The Honolulu Police Department, the Honolulu Fire Department, the Department of Emergency Management, and the Honolulu Emergency Services Department have been involved in preparing the plan.
S+S-2	2.5.4	A Threat and Vulnerability Analysis has been prepared to identify security weaknesses created at potentially sensitive locations by the Project.
S+S-3	4.5.3	To promote public safety, the City will provide security patrols of transit property and vehicles, ongoing train safety awareness education, and ongoing public security awareness education.
H+S-1	4.18.7	Construction Health and Safety Management Plan—this plan, developed by the construction contractor, will meet the requirements of 29 CFR 1910 and 1926 and all other applicable Federal, State, and Local regulations and requirements. It will also include provisions for identifying asbestos and lead-based paint that will be disturbed by the Project.
P-1	3.4.7	Parking surveys will be conducted prior to starting construction of a station, and again within six months after opening of the station. Results of the surveys will be used to determine the appropriate mitigation strategy for any spillover parking created by the project, which will be selected by the City and implemented as soon as feasible. Follow-up surveys will be conducted by the City to determine if the mitigation strategies are effective. Additional mitigation measures will be implemented by the city as needed. Strategies include, but are not limited to, the following: • Parking restrictions (where parked cars cause safety or congestion problems) • Parking regulation (e.g., meters, time limits, or other methods to encourage turnover) • Permit parking (e.g., resident or employee parking) • Shared parking arrangements (at locations where parking is available, but dedicated to another purpose such as retail centers, office uses, or places of worship)
P-2	3.4.4 3.4.7 7.3.1 8.6.11	Off-street privately owned parking spaces needed to construct the guideway or stations will be acquired by the City in accordance with the requirements of the U.S. Uniform Relocation Assistance and Real Property Acquisition Policies Act. The City does not plan to generally replace all private, off-street parking purchased and removed for construction of the Project. The City will work with landowners to replace parking as appropriate. As project design is refined, the effects on parking and businesses will be better understood. Design could be revised to minimize effects or compensate business owners if parking loss affects operation, as required under the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act.

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P-3	3.4.7	Mitigation measures for passenger loading zones include: • The passenger loading zone used for day care facility on Halekauwila Street between Ahui and Kamani Street will be relocated nearby on Ilaniwai Street from Cooke Street to Kamani Street. As a result, some of the existing on-street parking on Ilaniwai Street will be converted to passenger loading zones during the A.M. and P.M. peak periods. • A new passenger loading zone on Halekauwila Street between Punchbowl and South Streets will be installed in the same general location after construction is completed.
P-4	3.4.7	A freight loading zone on Ka'aahi Street will be relocated nearby.
P-5	3.4.7	The Leeward Community College Station will be built on the mauka end of existing parking lot. Parking spaces will be replaced at an alternate location on campus. The City will coordinate with Leeward Community College during final design to relocate parking.
P-6	3.4.7	Parking spaces in Ke'ehi Lagoon Beach Park used by the Project will be relocated within the park.
P-7	3.4.7	Some new on-street parking spaces will be created by the construction of the Project as streets are rebuilt after construction. The number and location will depend on the final configuration of the guideway and station footprints. New parking spaces will be designated as short-term, long-term, or loading zones, depending on the need, as determined by the City.
A-1	4.4.3 4.7.3	Where relocations will occur, compensation will be provided to affected property owners, businesses, or residents in compliance with all applicable Federal and State laws and will follow the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act (49CFR 24).
A-2	4.4.3	The City will assist all affected persons in locating suitable replacement housing and business sites within an individual's or business's financial means.
A-3	4.4.3	A minimum 90-day written notice will be provided before any business or resident will be required to move.
A-4	4.4.3	Relocation services will be provided to all affected business and residential property owners and tenants without discrimination; persons, businesses, or organizations that are displaced as a result of the Project will be treated fairly and equitably.
A-5	4.4.3 4.5.3	Where landscaping, sidewalks, and driveway access will be affected by the Project, coordination will occur with the landowner, and these property features will be replaced and/ or the property owner will be compensated in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act.
A-6	4.4.3	For land designed as ceded lands within the project right-of-way, ownership of these lands will not change. The City will obtain the appropriate permissions from the State for any ceded lands needed for the Project.

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A-7	4.5.3 Table 4-6	Effects to parks and recreational resources from partial acquisitions will be mitigated in coordination with parkland property owners as follows: Pearl Harbor Bike Path - The City will provide a temporary crossing over the trench to maintain bikeway access during construction. The bicycle path will be repaved in the affected area, and surrounding plantings disturbed by construction will be restored. Future Middle Loch Park - The area will be restored when outfall construction is complete, and surrounding plantings disturbed by construction will be restored. Aloha Stadium - Transit will provide additional access to the stadium. Kamehameha lot will be paved as a shared-use parking area. The shared park-and-ride will be used for stadium events.
CF-1	4.5.3 Table 4-6	Property use agreement or acquisition will be negotiated with the University of Hawai`i System. Light posts will be replaced at Honolulu Community College.
CF-2	4.5.3 Table 4-6	The affected portable buildings at Waipahu High School will be replaced or relocated on school property. A retaining wall and new access road to the football field will be provided.
CF-3	4.5.3 3.4.4 Table 4-6	The portable administration buildings and parking spaces will be relocated at Leeward Community College. There will be no net loss of parking. Property use agreement or acquisition will be negotiated with the University of Hawai`i System.
CF-4	4.5.3 Table 4-6	Property use agreement or acquisition will be negotiated with the Federal government for Nimitz Field.
CF-5	4.5.3 Table 4-6	Lighted tennis courts will be relocated within Ke`ehi Lagoon Beach Park. The City will provide lighting and associated resurfacing for four of the tennis courts near the park entrance prior to construction so that nighttime tennis court use will be maintained during construction. After construction, the four tennis Courts that will be closed during construction will be r restored in original location.
CF-6	4.5.3 Table 4-6	The Project will be a transportation benefit to Aloha Stadium and provide additional access. The unpaved parking area will be paved as a shared-use parking area. The shared park-and-ride will be used for stadium events.
CF-7	4.5.3 Table 4-6	Property use agreement or acquisition will be negotiated with the Federal government for six federal facilities (Pearl City Post Office, Honolulu Post Office, Prince Kūhiō Kalaniana‘ole Federal Building/Courthouse, and Pearl Harbor Complex).
CF-8	4.5.3 Table 4-6	Property use agreement or acquisition will be negotiated with the State for the Oahu Correctional Facility and Honolulu International Airport (coordination with FAA).
CF-9	4.5.3 Table 4-6 4.7.3	Alpha Omega Christian Fellowship Church will be acquired in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act and will be consistent with the Real Estate Acquisition Management Plan (RTD 2008q).
CF-10	4.5.3	The City will coordinate and consult with other agencies and stakeholders on the final design of the streetscape affected by the Project.
V-1	4.8.3	Develop and apply design guidelines that will establish a consistent design framework for the Project with consideration of local context..

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V-2	4.8.3	Coordinate the project design with City TOD planning and DPP. As part of the final design process, DTS has developed specifications and design criteria to address the City's requirements for the Project. Guideway materials and surface textures will be selected in accordance with generally accepted architectural principles to achieve effected integration between the guideway and its surrounding environment.
V-3	4.8.3 8.7	Consult with the communities surrounding each station for input on station design elements. The City is conducting a series of station design workshops to solicit community and Section 106 consulting party input and ideas about station design elements and the interface between each station and the surrounding community.
V-4	4.8.3 4.15.3	Consider specific sites for landscaping and trees during the final design phase when plans for new plantings will be prepared by a landscape architect. Landscape and streetscape improvements will serve to mitigate potential visual impacts.
V-5	4.8.3 Appendix H	The City will implement Design Standard requirements as set forth in Section IV of Section 106 Programmatic Agreement (PA) including the completion of neighborhood design workshops the review of preliminary designs by the PA signatories and concurring parties.
T-1	4.1 4.15.3	Transplanting existing trees to areas as close to their original locations as feasible or planting new ones. If new plantings will not offer equitable mitigation (e.g., older mature trees that are removed), additional younger trees could be planted that will, in time, develop similar benefits.
T-2	4.1	Existing street trees will be transplanted or new trees will be planted. Street tree pruning, removal, and planting will comply with City and County ordinances and require supervision by a certified arborist. The City will coordinate with the State of Hawaii Department of Transportation landscape architect.
T-3	4.15.3 4.18.8	Effects to street trees will be mitigated by transplanting existing trees to areas as close to their original location as feasible or planting new ones. Among the trees that require removal but could be transplanted are most of the trees along Farrington Highway. The location where street trees will be transplanted will be selected based on project specific criteria that could include the following: Areas where existing landscaping will be lost along the study corridor; Areas where opportunities exist for enhancing existing streetscapes near the study corridor; Areas where stations and parking lots will be constructed; Areas where shared benefits will be accomplished, such as areas adjacent to parks or historic sites
T-4	4.15.3	Trees suitable for transplanting displaced by construction will be relocated to a City project nursery until they can be transplanted to another part of the project area. The City will coordinate with HDOT's highway landscape architect.
NR-1	4.13.3	The City will secure a Certificate of Inclusion from the State in the existing Habitat Conservation Plan (HCP) and follow all the measures and requirements in the existing HCP. If a new HCP is needed, or the existing HCP needs to be amended because additional plants are found outside the existing HCP area, the City will implement the measures outlined by the USFWS in the new or amended HCP.
IS-1	2.5	New plantings will be non-invasive as defined by the Hawaii Chapter of the American Society of Landscape Architects, and native plants will be included where appropriate.

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PI-1	8.7 3.5.7	Public involvement activities will continue throughout the construction period. Intelligent Transportation System (ITS) information regarding traveler information or incident management will be distributed through both daily and instant public involvement means. The project website will continue to be the primary information source for up-to-date project information. In addition, the project hotline and newsletter, local newspapers, radio and/or television spots, news releases, instant messaging lists, and flyers may be used to provide information to the public.
N+V-1	4.10.3	Wheel skirts were added to the vehicle specifications to reduce noise generated from the Project. Wheel skirts will reduce noise exposure levels to below the FTA impact criteria at five of the eight locations where impacts are predicted.
N+V-2	4.1 4.10.3	Sound-absorptive materials will be added within the guideway structure in the vicinity of anticipated impacts at three separate locations to mitigate moderate impacts at upper floors of a few high-rise buildings. Eight-hundred feet of sound-absorptive material will be installed from Pupukahi Street to Pupupuhi Street. For the building at 860 Halekauwila Street, sound absorptive material will be required from 200 feet ʻEwa of Kamani Street to 100 feet Koko Head of Kamani Street; a total of 300 feet. The building at 1133 Waimanu will require sound-absorptive material to be installed between Kamakeʻe Street and Waimanu Street for a total of 920 feet.
N+V-3	4.10.3	Once the Project is operating, field measurements for noise will be conducted at representative sites. Should the Project's noise impacts exceed the FTA noise impact levels, further mitigation may be implemented on the receivers with the authorization of the property owners.
HM+ W-1	4.1 4.12.3	The City will perform either a partial or complete Phase I Environmental Site Assessment for properties that will be acquired for the Project. Depending on the outcome, a Phase II Environmental Site Assessment (including collecting and analyzing samples) may be appropriate. The City will decide whether a partial or complete Phase I Environmental Assessment is necessary for each property prior to acquisition If contaminated materials are identified, the property will be remediated in accordance with Federal, State, and Local Regulations. The City will coordinate with the HDOT Hazard Evaluation and Environmental Response Office regarding work within HDOT right-of-way.
HM+ W-2	4.12.3	Use non-hazardous alternatives to hazardous materials where possible as described in the Construction Health and Safety Plan.
HM+ W-3	4.12.3	Use closed systems for circulating hazardous materials designed to limit exposure as described in the Construction Health and Safety Plan.
HM+ W-4	4.12.3	Train employees in the safe use and management of hazardous materials as described in the Construction Health and Safety Plan.
HM+ W-5	4.12.3	Institute waste minimization programs to limit the volume and type of materials used and resulting wastes as described in the Solid Waste Management Plan.
HM+ W-6	4.12.3	Provide appropriate waste storage locations and receptacles as defined in the Construction Health and Safety and Solid Waste Management Plans.
HM+ W-7	4.12.3	Periodically evaluate wastes to establish whether they are hazardous as described in the Construction Health and Safety and Solid Waste Management Plans.
HM+ W-8	4.12.3	Recycle wastes to the maximum extent practicable as described in the Solid Waste Management Plan.

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HM+ W-9	4.18.2 4.18.7 4.18.8	The contractor will prepare the following plans to mitigate construction impacts related to wastes and their potential impact to the communities and neighborhoods: Construction Safety and Security Plan; Construction Health and Safety Plan; Construction Contaminant Management Plan; Construction Contingency Plan; Solid Waste Management Plan
W-1	4.14.3	Mitigation proposed for the Waiawa Stream mitigation site includes the following: Enhancement of the stream to restore and/or improve ecological and aquatic function; Establishment of water quality basins; Enhancement of floodway capacity conveyance to achieve zero rise in flood zone by removal of fill and an increase in stream area; Extension of existing culvert to Waiawa Stream to correct existing ponding situation; Ecological restoration with native Hawaiian plantings and use of non-invasive species. Details will be developed during the permitting phase.
CR-1	4.16.3 Appendix H	The PA provides for mitigation for adverse effects to historic properties and also outlines procedures to be followed to protect historic properties, including archeological resources and native Hawaiian burials, as construction proceeds. The PA includes stipulations that describe the roles and responsibilities of the parties, which includes FTA, the SHPO, ACHP, and the City and County of Honolulu. Stipulations are as follows: • Committing to complete TCP studies • A phased approach to undertaking archeological studies that includes initial planning, consultation, fieldwork, developing treatment and mitigation plans, and curation • Following established design standards • Recording and documenting adversely affected built resources • Completing NRHP and NHL nominations • Funding and administering educational and interpretive programs, materials, and signage • Mitigating adverse effects to specific resources by funding and supporting preservation and restoration efforts • Implementing measures to address reasonably foreseeable indirect and cumulative effects caused by the project The PA also describes how post-review discoveries will be handled and commits to providing public information throughout the term of the PA
CR-2	4.18.11 Appendix H	The PA pertaining to archaeological resources has been developed in consultation with SHPO, ACHP, FTA, the City, and other Section 106 consulting parties to address the identification and treatment of traditional cultural properties, the identification and protection of archaeological sites and burials, and the identification and treatment of historic buildings and structures within the Project's APE.
CR-3	4.18.11 Appendix H	Prior to construction, an archaeological sampling plan will be developed for each construction phase in coordination with the O'ahu Island Burial Council and SHPO. The sampling will be completed in advance of final design completion so that the presence of any sensitive archaeological sites/burials discovered during fieldwork can be addressed during final design.
PM-1	4.21 Table 4-40 3.5.1	Table 4-40 summarizes permits, certificates, and/or approvals anticipated to be required for implementation of the Project. When it states that permits, approvals, and agreements are required, it is anticipated that they will be received prior to commencing the activity that triggers the permit, approval or agreement. The City will be responsible for obtaining all permits, approvals, and agreements unless otherwise noted. The City will ensure that all permit, approval, and agreement conditions are met.

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PM-2	3.4.3	There are seven locations where the Project will either cross or enter interstate freeway airspace, including freeway mainline and access ramps. The City will coordinate with FHWA to obtain the necessary permits and approvals related to airspace.
PM-3	4.14.3	The City and County will obtain USACE permits for all phases of construction as presented in the Final EIS.
TM-1	3.4.3 3.4.7	To mitigate for additional merging traffic on the H-2 northbound on-ramp at Kamehameha Highway, the City will restripe the section of H-2 near the ramp merge area to provide a parallel merge lane that will continue for approximately 500 feet across an existing bridge.
TM-2	3.4.7	North-South Road and East-West Connector Road (East Kapolei Station): widening the northbound (or mauka-bound) direction of North-South Road to provide dual left-turn lanes, three through lanes, and one right-turn lane. The length of the dual left-turn lanes is a minimum of 210 feet.
TM-3	3.4.7	North-South Road and Future Road B (UH West O'ahu Station): widening the westbound (or Koko Head-bound) direction of Road B to provide two left-turn lanes, one through lane, and one right-turn lane. The length of the dual left-turn lanes is a minimum of 240 feet.
TM-4	3.4.7	Kamehameha Highway at Waihona Street (Pearl Highlands Station entrance): widening the north leg (southbound approach) of the Kamehameha Highway at Waihona Street intersection to have a separate right-turn, and a combined through and left-turn lane (total of two southbound lanes into the intersection).
TM-5	3.4.7	Farrington Highway and Waiawa Road/Pearl Highlands Station park-and-ride driveway (Pearl Highlands Station): installation of a new traffic signal that will be coordinated with adjacent signals at the Farrington Highway eastbound and Waiawa Road intersection.
TM-6	3.4.7	Kamehameha Highway and Kuala Street (Pearl Highlands Station): signalizing the 'Ewa-bound Kamehameha Highway at Kuala Street and widening Koko Head-bound Kamehameha Highway from one to two lanes.
TM-7	3.4.7	Kona Street and Ke'eaumoku Street (Ala Moana Center Station): signalizing this intersection will reduce the delay at this location. Because of the proximity of this intersection to the signalized intersection at Kapi'olani Boulevard and Ke'eaumoku Street, the signals will be coordinated to enhance traffic flows and prevent additional effects at other locations.
TM-8	3.4.7	To minimize the effect on traffic and ensure safety during major events at Aloha Stadium, the City will coordinate with the Stadium Authority to provide staff and/or resources as needed to help manage the flow of pedestrians walking between Aloha Stadium and the station entrance.
C-1 (TM)	3.5.7 8.6.10	A Maintenance of Traffic (MOT) Plan and a Transit Mitigation Program (TMP) will be developed in conjunction with the Project's Final Design by the contractor. The MOT will include site-specific traffic control measures. The contractor will be given parameters, such as the number of lanes that could be closed and the procedures for closures, and will develop the MOT Plan accordingly with approval from the City or HDOT. A detailed schedule showing which lanes will be affected will be prepared for the erection of segments. The actual means for erecting these segments will be the contractor's decision. Both the MOT and TMP will be shared with the public.
C-2 (TM)	3.5.7	Work Zone Traffic Control Plans, including detour plans, will be formulated during final design in cooperation with the City, HDOT, and other affected jurisdictions.

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C-3 (ENV)	4.18	The City will ensure that the environmental commitments in the Final EIS and the permit conditions are met during the final design and construction of the Project. The City will employ a dedicated environmental compliance manager to oversee construction contractor compliance with all stormwater BMPs, construction noise mitigation measures, utility coordination, business access requirements, and any mitigation plans prepared for the Project, including those presented in permit conditions and the MOT Plan.
C-4 (CF)	4.18.2 8.6.10	Access to businesses in the Project area will be maintained throughout construction as practicable; however, there could be temporary changes to access and movement during construction.
C-5 (CF)	4.18.2	In instances where any school, parkland, or recreational resource will experience a disruption in access, the effects will be mitigated as necessary and appropriate using applicable practices similar to those outlined for Business Access. Temporary barrier walls or fences will be placed around any school, parkland, or recreational resource to clearly delimit a construction area, to avoid public exposure to any possible construction hazards.
C-6 (CF)	4.18.2	Utility service to abutting properties may be temporarily interrupted for short periods. Property owners will be contacted prior to interruption of utility services. If facilities are temporarily relocated, the area will be restored as close as possible to its original condition. Replacements for existing utilities will provide service companies capacity equal to that currently offered. Coordination will occur with emergency services and utility companies to ensure that utility relocations meet their needs and that sufficient clearance is provided.
C-7 (V)	4.18.3	The contractor will incorporate construction management practices as practical to minimize visual impacts during construction, including: • Remove visibly obtrusive erosion-control devices, such as silt fences, plastic ground cover, and straw bales, as soon as an area is stabilized • Locate stockpile areas in less visibly sensitive areas whenever possible so they are not visible from the road or to residents and businesses • Shield temporary lighting and direct it downward to the extent possible • Limit the times construction lighting could be used in residential areas • Replace removed street trees and other vegetation with appropriately sized vegetation as soon as practical after construction is completed in the same location or another location in accordance with City and State requirements.
C-8 (AQ)	4.18.4	The contractor will select appropriate measures to comply with fugitive dust requirements. The following control measures can substantially reduce fugitive dust: • Minimize land disturbance • Use watering trucks to moisten disturbed soil • Use low emission equipment when feasible • Cover loads when hauling dirt • Cover soil stock piles if exposed for long periods of time • Use windbreaks to prevent accidental dust pollution • Limit the number of vehicular paths and stabilize temporary roads • Maintain stabilized construction area ingress/egress areas • Wash or clean trucks prior to leaving construction sites • Minimize unnecessary vehicular activities

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C-9 (W)	4.18.10	Columns, foundations, diversions, and other temporary and permanent structures will be placed in or on the banks of Kaloʻi Gulch, Waiawa Stream, Waiawa Springs, Moanalua Stream, Kapālama Canal Stream, and Nuʻuanu Stream. Work in these waters is highly regulated and will require permits from Federal and State agencies. Through the permitting process, details of BMPs will be developed to mitigate potential impacts to streams due to placement of fill.
C-10 (W)	4.18.10	The contractor will be prohibited from entering any wetlands during construction. The wetlands will be designated as a no-work area on the final design plan sheets and 3-foot-high orange fencing will be installed around the wetland to designate the no-work area. The orange fencing will be inspected routinely to ensure that it is maintained.
C-11 (W)	4.18.10	Excessive or differential settlement due to drilled shaft dewatering and the resultant depression of the groundwater surface can cause cracking and other damage to structures. Settlement is expected to be minimal because the level of the groundwater depression is expected to be localized and generally not greater than about 5 feet below static groundwater levels. Where dewatering produces a drawdown in excess of 5 feet, construction monitoring will be required to monitor for dewatering-induced settlement.
C-12 (W)	4.18.10	Uncontrolled releases of drilling fluids are not permitted. The displaced fluid will be collected and treated as necessary for either reuse or disposal in accordance with permit requirements.
C-13 (W)	4.18.10	Stormwater BMPs may include, but not be limited to: • Minimize land disturbance • Stabilize or cover the surface of soil piles • Revegetate all cleaned and grubbed areas to the extent possible • Maintain stabilized construction area ingress/egress areas • Wash or clean trucks prior to leaving the construction site • Install silt fences and storm drain inlet filters • Prevent off-site stormwater from entering the construction site • Implement other stormwater management techniques
C-14 (P)	3.4.7 3.5.7	Passenger loading zones on Halekauwila Street near South Street and on Halekauwila Street near Kamani Street and a freight loading zone on Kaʻaahi Street will be temporarily relocated near each location for the duration of construction.

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C-15 (TS)	3.5.2 3.5.7	The Transit Mitigation Program (TMP) will define adjustments that will mitigate the effects of construction on existing bus and TheHandi-Van service and will be customized for each construction phase and sized to properly serve projected rider demands. The TMP will generally maintain existing bus routes and stops. Identification of potential changes to bus routes and stops will be coordinated with TheBus. In areas where interruptions are expected, the following approaches may be adopted: • Relocating bus stops • Rerouting existing service for short sections where no additional buses are required • Rerouting existing service for longer segments that require additional buses • Introducing new services if they operate on different alignments not affected as heavily by construction • Ceasing operation of routes or portions of routes temporarily and redeploying service hours to parallel routes • Initiating a public information program to inform transit riders of service changes during construction • Rerouting school bus routes that will be substantially delayed
C-16 (TS)	3.5.2 3.5.7	The phased opening approach will require interim changes to bus transit service. A plan to accommodate the use of phased openings will be developed in advance. Identification of potential changes to bus routes, stops, and service resulting from construction of the Project will be coordinated with TheBus.
C-17 (TM)	3.5.3	Traffic signals adjacent to the fixed guideway could be temporarily replaced or re-timed. In addition, temporary traffic signals may be placed at some unsignalized intersections during construction.
C-18 (P)	3.5.4 3.5.7	• On-street parking by construction workers will not be permitted near work sites. During the actual hours of work, only those vehicles absolutely necessary for construction shall be allowed within the safety zone or allowed to stop or park on the shoulder of the roadway with the approval from the City. • Signs will be posted directing people to nearby locations with available parking. The public will be kept aware of upcoming work locations, and information will be available on the project website about parking disruptions and alternatives. • Construction workers also will not use commercial parking facilities if doing so reduces available parking for customers or employees of that business. Contractors will need approval from business owners before private lots can be used for parking. • The City will coordinate with property owners regarding the timing of construction and other issues to minimize disruption to off-street parking.

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C-19 (TM)	3.5.5 3.5.7	• Access to existing bicycle and pedestrian facilities will be maintained during all phases of construction as safety allows. • Warning and/or notification signs will be provided. Proposed pedestrian detours will be submitted to the City for review and approval to ensure they are reasonable for all pedestrians and meet ADA regulations. • Proper deterrents, such as barriers or fencing, will be placed to prevent access through the construction area. • Channelizing pedestrian flow in areas where sidewalks are near construction. • Providing alternative routes to avoid hazardous areas.
C-20 (TM)	3.5.7	Intelligent Transportation System (ITS) applications will be implemented to make travel through and around work zones safer and more efficient. Several ITS strategies will be used, including: traveler information, arterial traffic management, and incident management.
C-21 (TS)	3.5.7	As each station opens, temporary signage will be installed that provides driving directions to available parking (if provided) and to passenger drop-off and pick-up locations. Signage will also direct pedestrians and bicyclists to station entrances.
C-22 (N+V)	4.18.5	For buildings closer than 75 feet to pile-driving activities, the contractor will be required to provide mitigation for vibration levels during these activities. Contractors will be required to perform a video survey of the immediate area prior to the start of any construction activity where vibration levels may be high enough to affect surrounding structures.
C-23 (N+V)	4.18.5	Prior to construction, an approved Community Noise Variance will be obtained from HDOH for the Project. Noise permits will be obtained prior to the construction of each phase of the Project. The permits will regulate construction times and activities and include mitigation commitments.
C-24 (NR)	4.18.8	Prior to clearing and grubbing near the ko‘oloa‘ula contingency reserve, the area will be surveyed. If any ko‘oloa‘ula are found, a horticulturist approved by DLNR will be given an opportunity to remove the plants and transplant them to the contingency reserve.
C-25 (NR)	4.18.8 7.3.1	The City will survey all large canopy trees to be pruned prior to construction to ensure that no trees have white tern chicks. If any are found, pruning will be delayed until chicks fledge.
C-26 (IS)	4.18.9	• Construction equipment or material imported to O‘ahu from the mainland, neighbor islands, or foreign countries must be free of dirt, vegetative matter, and animals. • Construction equipment will be cleaned and inspected before being brought to the project site. • On-site workers will be trained to recognize common invasive species growing in the construction area. • Site surveys to assess the construction area for invasive species will be conducted before, during, and after construction. • When fill is imported to or exported from the job site, care will be taken to avoid spreading invasive species, and location records will be kept. • Criteria for cleaning, inspection, and treatment of plants that are at risk of harboring pests will be part of the landscaping requirements. • Species that can be harmful invaders will not be used for project plantings.

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C-27 (CR)	4.18.11 Appendix H	Consultation with SHPD will assess the need for archaeological monitoring during construction. The archaeological monitoring program will follow the Programmatic Agreement. A monitoring report will be prepared to document all results at the completion of construction. In the vicinity of the Waipahu Transit Center, archaeological monitoring will include the recovery of data from the identified subsurface cultural deposit (Loʻi sediments).
C-28 (CR)	4.18.11 Appendix H	In advance of construction, archaeological resources deemed worthy of preservation in place may be identified. If this occurs and the Project is modified to avoid such resources, construction activities will also avoid those resources. Protection zones will be established around these resources to avoid disturbance during construction as described in the Section 106 Programmatic Agreement.
C-29 (CR)	4.18.11 Appendix H	During the archaeological sampling, burials will be identified and managed in compliance with applicable laws. This will include consulting with project proponents, the Oʻahu Island Burial Council, The SHPO, and recognized lineal and/or cultural descendants to develop burial treatment plans. Although the goal of the archaeological sampling will be to identify all burials and treat them appropriately prior to the start of construction in a particular area, the chance exists that additional previously undiscovered burials will be encountered during construction. In each geographic area, the parties consulted regarding burials during the Project's archaeological sampling phase will be consulted if a find is made during construction. The Programmatic Agreement outlines the treatment of burials discovered during preliminary archaeological work, prior to final design, as well as burials found during project construction.
C-30 (CR)	4.18.11 Appendix H	Adverse impacts related to cultural resources resulting from construction of the Project will likely be short-term and consist of affecting access to areas where cultural resources exist or cultural activities are practiced. The impact to cultural resources or areas will be mitigated using the same maintenance of access policies outlined for businesses and as described in the Section 106 Programmatic Agreement.
C-31 (CR)	4.18.11 Appendix H	Historic resources could be inadvertently affected during construction. Any potential construction impacts will be mitigated using measures outlined in previous construction sections related to noise, vibration, air quality, and water quality and as described in the Programmatic Agreement.. In addition, to avoid collision with or damage to historic resources during construction, protection zones will be established around such resources to avoid disturbance during construction activities.

Mitigation No.	Final EIS Section(s)	Summary
C-32 (N+V)	Appendix H	According to the Programatic Agreement, during final design, DTS, in corporation with its contractors and FTA, will develop a Construction Mitigation Plan (CMP). The CMP will include a Noise and Vibration Mitigation Plan using any and all of the mitigation measures defined in the Final EIS and the FTA Noise and Vibration Impact Assessment (2006) guidance. Numeric limits and monitoring measures will be developed to minimize noise and vibration impacts. Vibration criteria included in Table 12-3 of the FTA guidance (FTA 2006) will be applied. Note that most historic properties in the corridor are non-engineered timber or masonry; a criterion of 0.2 inches per second of peach velocity would be applicable to these structures. Noise and vibration mitigation strategies will be included in the Construction Noise and Mitigation Plan.

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A	Acquisitions
AQ	Air quality
C	Construction
CF	Community facilities
CR	Cultural resources
ENV	Environmental
HM+W	Hazardous materials and waste
H+S	Health and Safety
IS	Invasive species
N+V	Noise and vibration
NR	Natural resources
P	Parking
PI	Public involvement
PM	Permits
S+S	Safety and security
T	Trees
TM	Traffic management
TS	Transit service
V	Visual
W	Water

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